

GIS KNOWLEDGE SHARING: **USING THE WEB FOR OPEN BUSINESS** **TO PROMOTE REGIONAL GIS**

URISA's 40th Annual Conference

Chicago, Illinois: October 29, 2002

Greg Babinski, Finance & Marketing Manager

King County GIS Center
"Putting GIS to Work in King County"

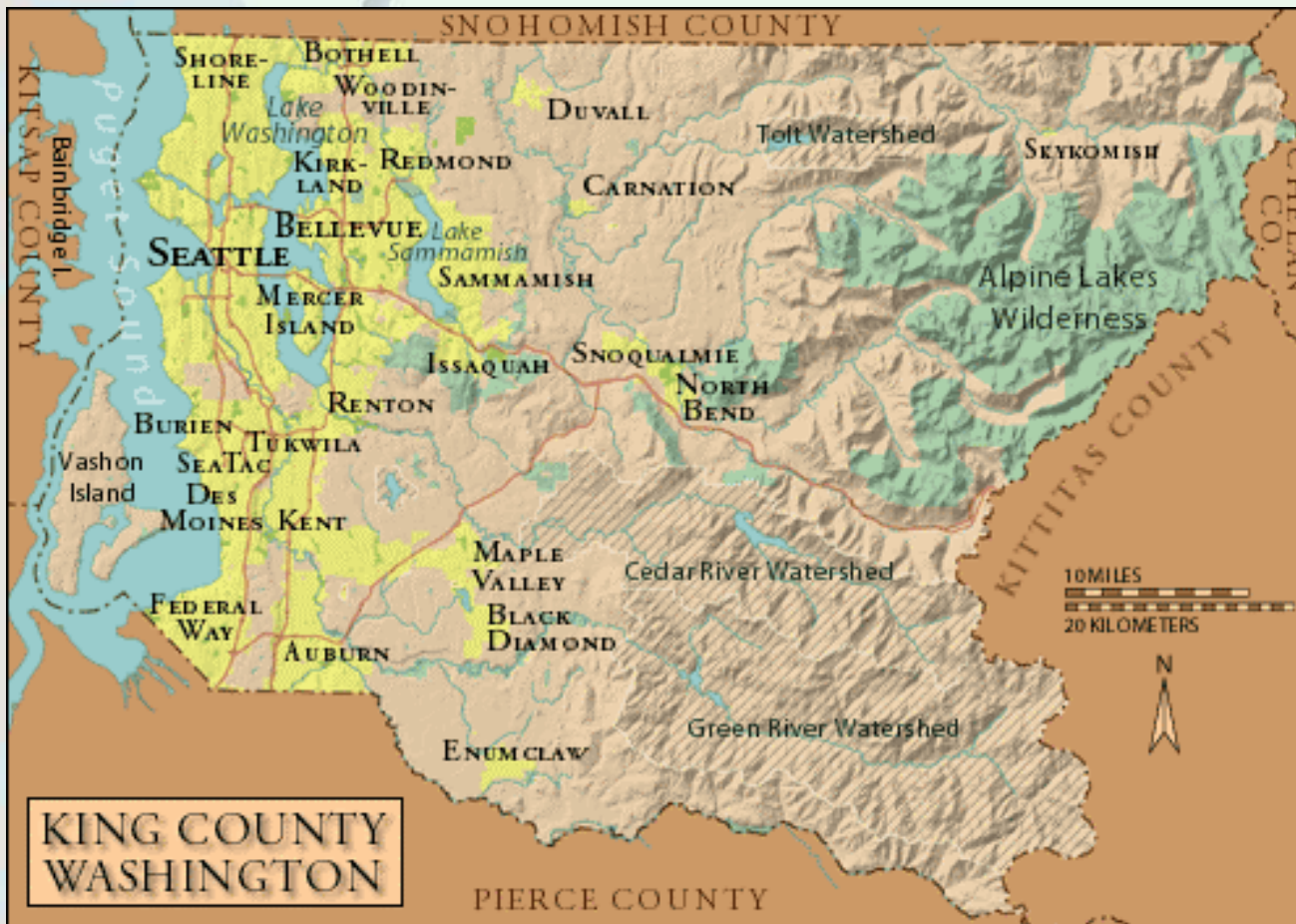


Presentation Outline

- ❑ Introduction to King County, Washington
- ❑ GIS Success and Failure
- ❑ Data Sharing as a GIS Success Factor
- ❑ Knowledge Sharing as a GIS Success Factor
- ❑ King County GIS
- ❑ King County GIS Knowledge Sharing
 - ❑ Open Business
 - ❑ The KCGIS Knowledge Base
 - ❑ What's in it for us? What's in it for you?
- ❑ Conclusions and Your Questions and Comments



King County, Washington



- ☐ Microsoft
- ☐ Boeing
- ☐ Amazon.Com
- ☐ Starbucks
- ☐ Port of Seattle
- ☐ Weyerhaeuser
- ☐ Nordstrom
- ☐ Paccar
- ☐ Univ. of Washington



Population (2000): 1,737,000 (12th largest US County)

Area: 2130 square miles (Sea level to 8,000')

39 Incorporated Cities

Viable agricultural and private forestry regions

Remote wilderness & watershed

www.metrokc.gov/gis

GIS Success & Failure

GIS Success Factors:

- ❑ GIS should be operated like a business
- ❑ GIS proves its value when other organizations chose it to improve their business
- ❑ GIS succeeds best when tools are placed in the hands of end users
- ❑ GIS is based on complex technology that requires highly trained 'knowledge-workers' to develop, operate, & maintain the system successfully



GIS Success & Failure

GIS Struggle & Failure:

- ❑ Lack of adequate management support
- ❑ GIS program that is oversold and/or underfunded
- ❑ Poor technology choices
- ❑ Data development problems
- ❑ Poor data maintenance/management practices
- ❑ Poor or non-existent application development methodology
- ❑ Inadequate knowledge of the technology, operations, and management aspects of GIS



GIS Data Sharing

Typical Partners:

- ☐ State Agencies
- ☐ Regional Agencies
- ☐ Counties & Cities
- ☐ Utility & School Districts
- ☐ E911 & Fire Districts
- ☐ Tribes
- ☐ Universities & Libraries
- ☐ Federal Government
- ☐ International
- ☐ The Public

Typical Business Models:

- ☐ 1:1 Data Sharing Agreement
- ☐ Regional MOU
- ☐ Acquisition Consortium
- ☐ Maintenance Consortium
- ☐ Data Sales
- ☐ Data Licensing
- ☐ Leasing from Vendor
- ☐ Free Data



GIS Data Sharing

Types of Data:

- ☐ Cadastral
- ☐ Topography
- ☐ DEM
- ☐ Imagery
- ☐ Streams & Water Features
- ☐ Roads
- ☐ Street Address
- ☐ Others based on agency business

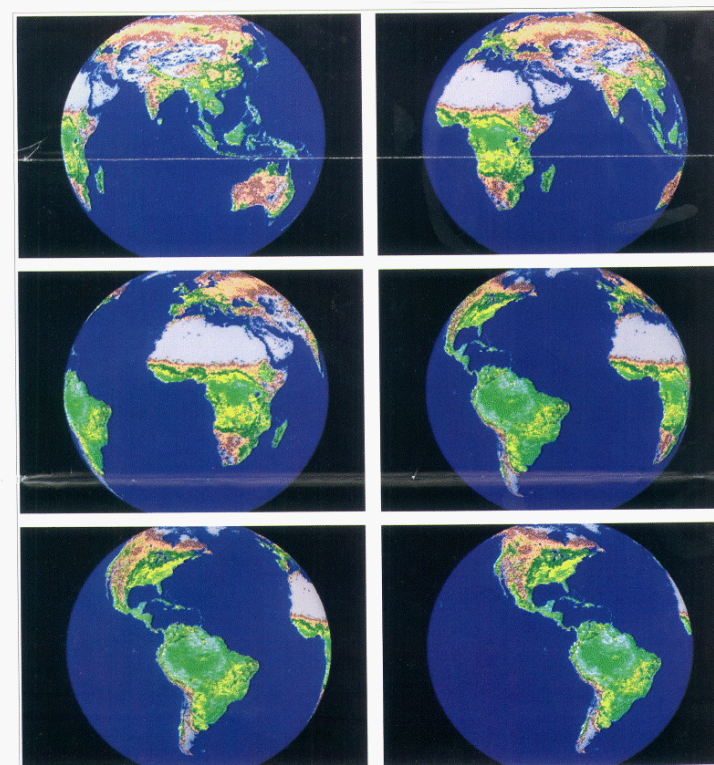


Figure 31: One time slice of the vegetation index for the entire globe from AVHRR data.

1991



GIS Data Sharing

How does Data Sharing Promote GIS Success?

- ❑ Data development cost avoidance
- ❑ Facilitates down-stream sharing of data layers
- ❑ Enables (in some cases requires) sharing of data maintenance costs
- ❑ Promotes interagency communication & coordination
- ❑ Promotes interagency standardization
- ❑ Promotes interagency infrastructure sharing
- ❑ Enables interagency application sharing
- ❑ Dependent on open business and knowledge sharing



Other GIS-Related 'Sharing' Opportunities

- ❑ Applications
- ❑ Staff
- ❑ Management
- ❑ Infrastructure
- ❑ Core hardware and network
- ❑ Specialized services: system administration, backup, security
- ❑ Knowledge
- ❑ Key business concepts:
 - ❑ Acquire or share external services & resources when it makes good business sense
 - ❑ Concentrate internal resources on high-end, value-added functions



Knowledge Sharing

Delivery of GIS Services & Products Requires Many Roles:

- ❑ Application Development
- ❑ Coordination
- ❑ Data Acquisition
- ❑ Data Analysis
- ❑ Data Management
- ❑ Project Management
- ❑ Management
- ❑ Marketing
- ❑ Systems Analysis
- ❑ Systems Management
- ❑ Training
- ❑ Visualization

(Gaudet, Annulis, Carr)

Other Roles:

- ❑ Data Development
- ❑ Customer Relationship Management
- ❑ Financial Management
- ❑ Quality Assurance



Knowledge Sharing

Successful GIS Requires Competency in Many Functions

- **Technical**
 - Computer Programming
 - Cartography
- **Analytical**
 - Research Skills
 - Knowledge Management
- **Business**
 - Change Management
 - Organization Understanding
- **Interpersonal**
 - Leadership
 - Group Process Understanding



(Gaudet, Annulis, Carr)

Knowledge Sharing

Competency is Based on KSA's:

Knowledge:

- Acquaintance with or understanding of a science, art, or technique

Skill:

- A learned power of doing something competently

Ability:

- The quality or state of being able...to perform



Knowledge Sharing

GIS Roles are Comprised of Multiple Competencies:

GIS Data Analyst:

- ❑ Cartography
- ❑ GIS Theory & Applications
- ❑ Remote Sensing Theory
- ❑ Ethics Modeling
- ❑ Research Skills
- ❑ Problem-Solving Skills
- ❑ Communications
- ❑ Feedback Skills



(Gaudet, Annulis, Carr)

Knowledge Sharing

GIS Roles are Comprised of Multiple Competencies:

GIS Project Manager:

- ❑ GIS Theory & Applications
- ❑ Technical Writing
- ❑ Ethics Modeling
- ❑ Cost Benefit Analysis/ROI
- ❑ Creative Thinking
- ❑ Problem-Solving Skills
- ❑ Leadership
- ❑ Communications
- ❑ Relationship Building

(Gaudet, Annulis, Carr)



Knowledge Sharing

GIS Professionals Need to Maintain & Expand Competencies:

- ❑ To utilize new technology
- ❑ To apply 'best practices'
- ❑ To solve a new problem
- ❑ To initiate a new program
- ❑ To fill or prepare for a new role
- ❑ For personal professional development



Knowledge Sharing

Organizational Need to Manage GIS Competencies:

- ❑ To align with strategic goals
- ❑ To respond to customer requirements
- ❑ To utilize new technology
- ❑ To apply 'best practices'
- ❑ To solve new problems
- ❑ To initiate new programs
- ❑ For long-term organizational viability



Knowledge Sharing

Organizational Strategies to Manage Competency:

- ❑ Staff competency assessment
- ❑ Explicit expectations regarding staff competency
- ❑ Team approach & 'extreme programming'
- ❑ Formal open business
- ❑ Peer review & best practices development
- ❑ Program to develop redundant competency for 'mission-critical' roles



Knowledge Sharing

Competency Management & Small Organizations:

- ❑ Look for non-traditional 'GIS-sharing' opportunities
- ❑ Outsource roles where viable
- ❑ Focus on GIS 'value-added' roles
- ❑ Identify 'best-possible' sources of redundant competency



King County GIS (KCGIS)

The King County Geographic Information System (KCGIS) is a coordinated regional geographic information resource, organized to meet the business needs of King County, local agencies, and the general public.

KCGIS is comprised of both the King County GIS Center (responsible for core GIS resources and enterprise services for the entire County) and business specific activity in various GIS units distributed across other County departments.



King County GIS Vision



"I highly value the work that all of you do for King County....An efficiently run GIS system is a high priority for me..."

"I want to improve our GIS, provide it the resources to grow, and see the County become a regional GIS service provider..."

"I feel the best way to accomplish this is by consolidating our assets and centralizing our data and management functions..."

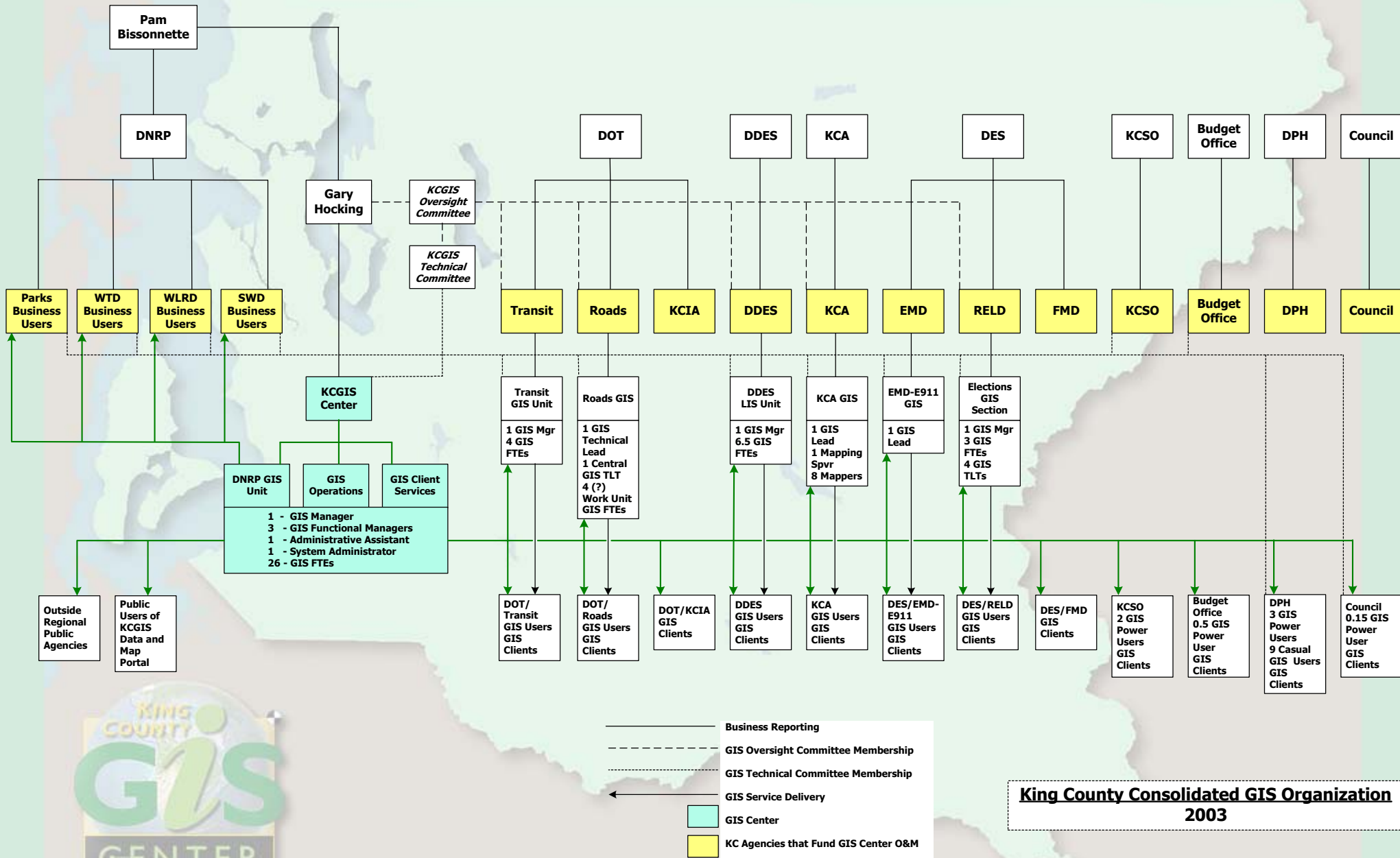
"My vision is to pull all [King County] data and geographic information together with the ability to develop products from it, and have a single point of accountability for assuring these products are accurate, consistent, accessible, affordable, and comprehensive. Once accomplished, the value of this asset will be virtually incalculable, and highly usable by the rest of the region..."

"My interest is to protect our GIS, better our GIS, and grow our GIS."



- Ron Sims, King County Executive, March 23, 2001

KCGIS Organization



**King County Consolidated GIS Organization
2003**

KC Department GIS Units

- ❑ **Maintain unique GIS data, applications, and services needed to support agency specific business**
- ❑ **Maintain core KCGIS data needed to meet enterprise GIS business needs**
- ❑ **Work with KCGIS Center to integrate department data into KCGIS Data Warehouse**
- ❑ **Work with KCGIS Center and KCGIS Technical Committee to develop Countywide GIS operations & maintenance plan and annual KCGIS workplan**
- ❑ **Comply with Countywide GIS standards and procedures**



How is GIS Used for King County Business?



park & ride



How is GIS used for County Business?

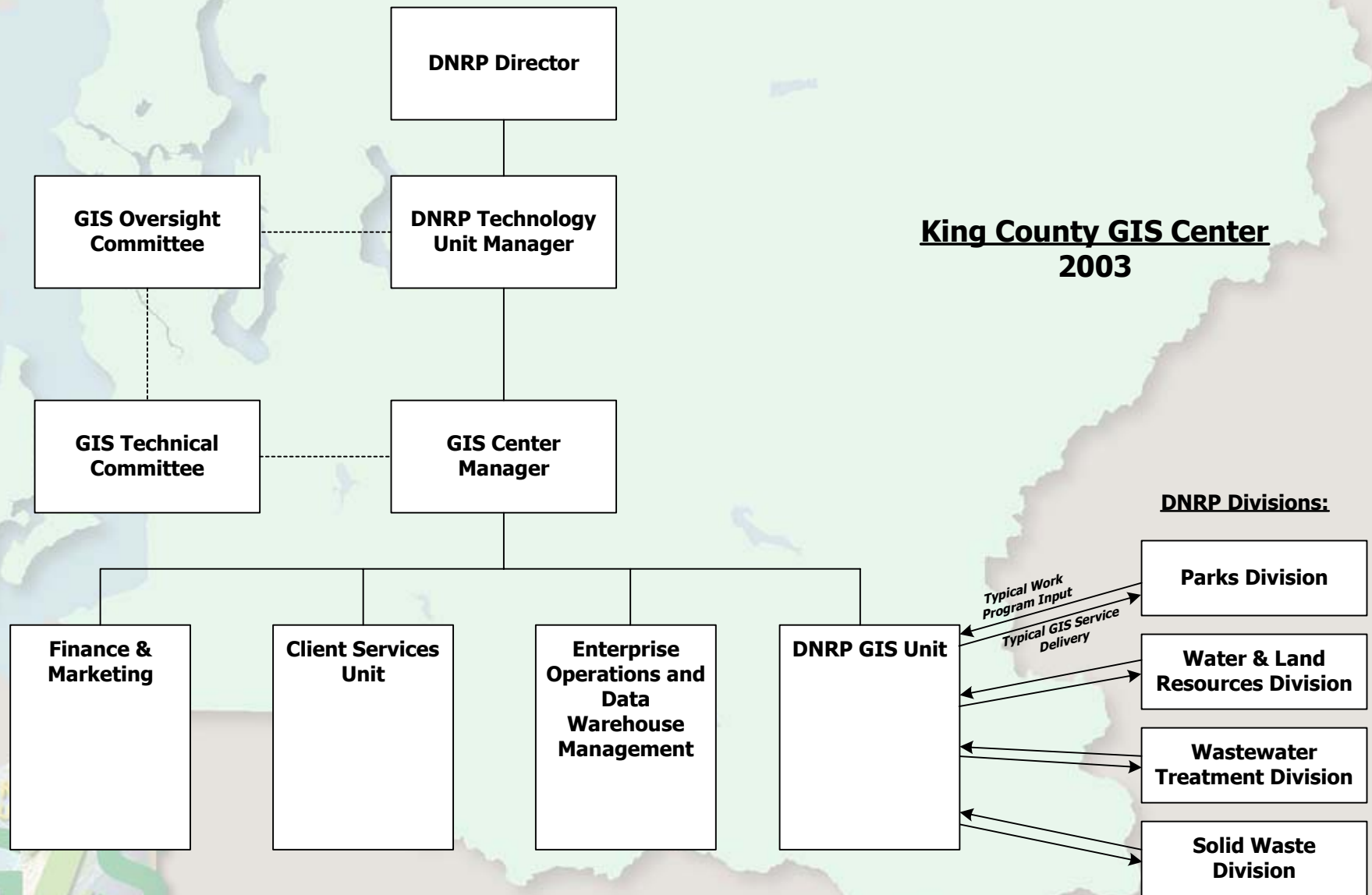
- ☐ Mapping
- ☐ Public information delivery
- ☐ Growth management & planning
- ☐ Property assessment
- ☐ Land development permitting
- ☐ Site selection
- ☐ Simulating environmental conditions
- ☐ Emergency response planning
- ☐ Crime analysis
- ☐ Transportation planning
- ☐ Bus & van routing
- ☐ Road maintenance management
- ☐ Public health service delivery
- ☐ E911 operations
- ☐ Airport sound abatement
- ☐ Boundary management (legislative districts, voter precincts, tax unit boundaries, etc.)

KCGIS Center

- ❑ Provide the enterprise GIS environment and operational services KC department customers require
- ❑ Manage KCGIS architectural development
- ❑ Manage KCGIS Data Warehouse infrastructure
- ❑ Provide enterprise support services
- ❑ Provide end-user client services
- ❑ Manage DNRP GIS services



KCGIS Center Organization



KCGIS Center Enterprise Operations

Function:

- Core Countywide GIS infrastructure & services

Business Model:

- Fixed cost defined level of service, funded by agencies that implement GIS

Organization:

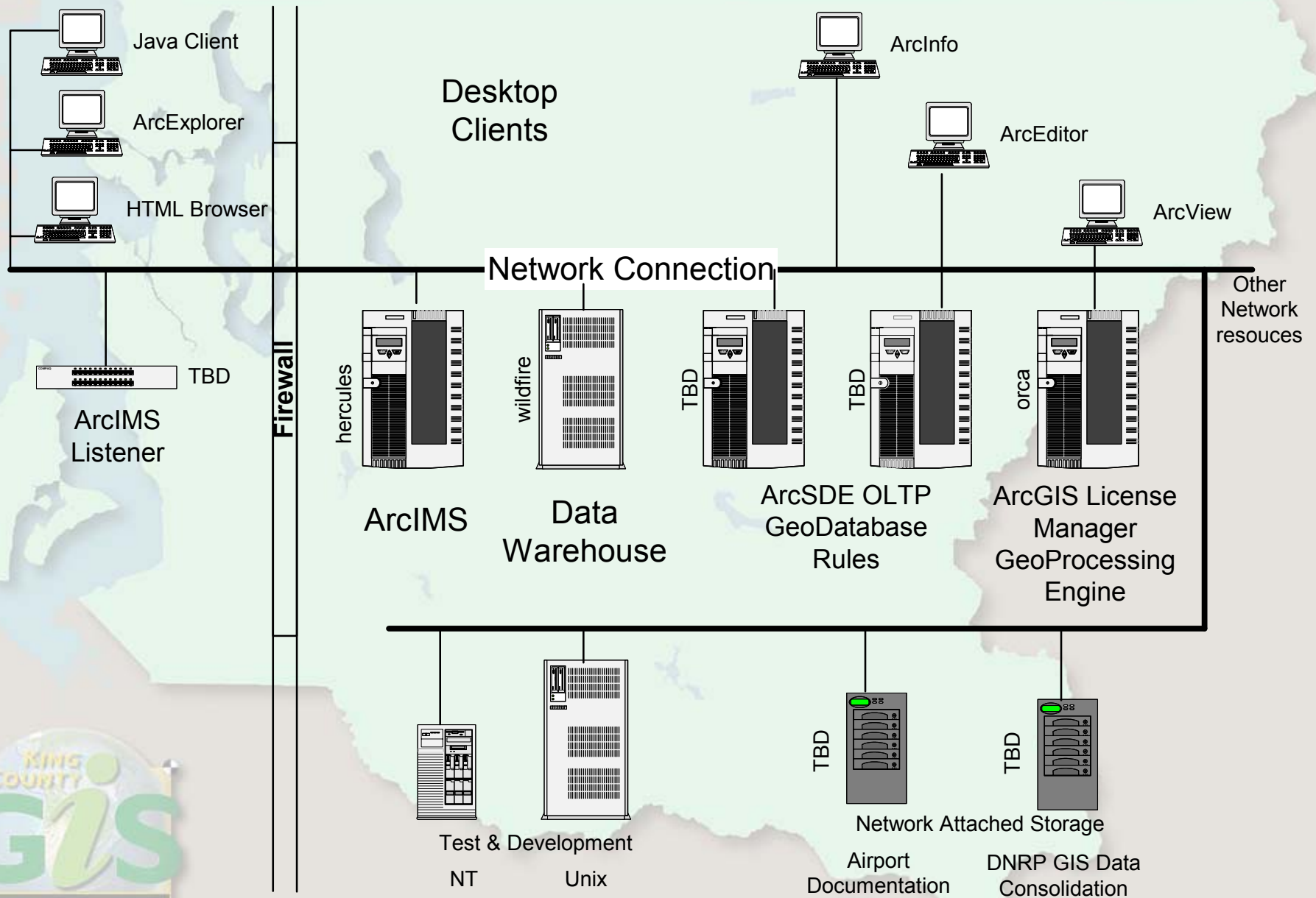
- 11 staff: management, administration, DBA, data management, & programmers

Management:

- Team approach, redundant expertise, open business
- Individual professional development
- Customer-oriented, rules driven programming methodology

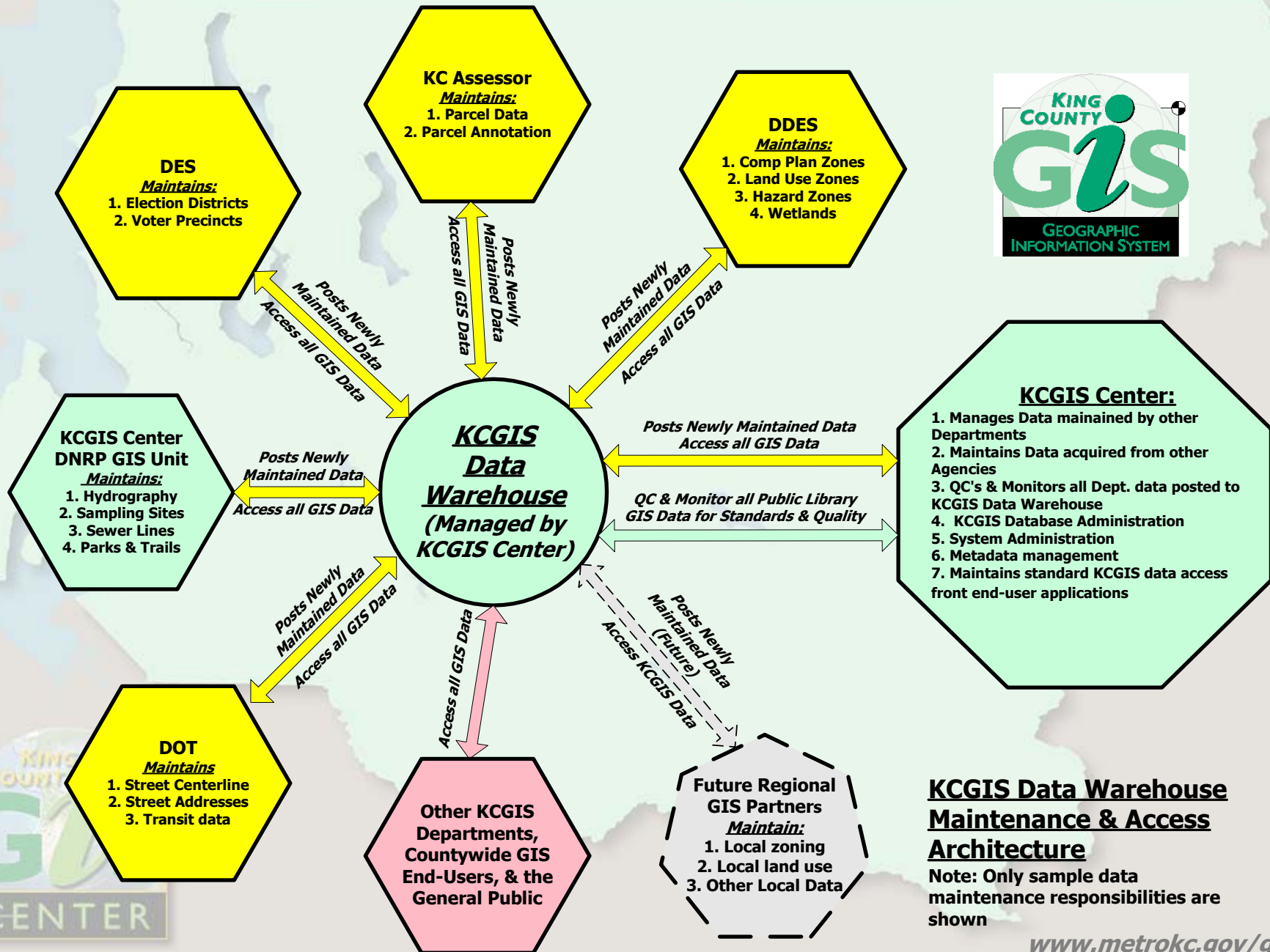
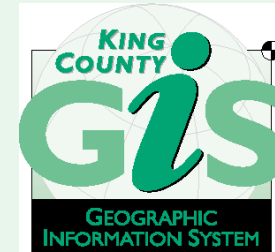


KCGIS Enterprise Architecture



KCGIS Data Warehouse

(www.metrokc.gov/gis/sdw)




KCGIS Data Warehouse Maintenance & Access Architecture

Note: Only sample data maintenance responsibilities are shown

www.metrokc.gov/gis

KCGIS Spatial Data Catalog

(www.metrokc.gov/gis/sdc)

**King County**[Home](#)[News](#)[Services](#)[Comments](#)[Search](#)

King County GIS Center

[GIS Center Home](#)[Map Portal](#)[Client Services](#)[Spatial Data Catalog](#)[Data Warehouse](#)

King County Tax Parcels
Description

File name: PARCEL
Subject category: property
Alias: King County Tax Parcels
Abstract: King County tax parcels and related property features
PARCEL is a standard KC GIS [coverage](#)
Purpose: This coverage contains tax parcel polygons and selected codes for King County in its entirety. The parcel identification number (PIN) from the county tax roll is included for relating other tables to PARCEL, but all other attributes and extensive annotation from the tiled source coverage (see RECDNET) are omitted. This coverage provides an interim source of countywide property polygons suitable for medium to large scale map displays and many kinds of analysis.
Status: in work
Updated: randomly
Coverage date:
Location: King County, Washington
Scale: 1:24000
FGDC documentation: [Available](#)
CD Distribution: [CD2](#), [CD4](#)
Additional comments: Minor Pin Codes: Right of Way Marked Not Open - 5999, Right of Way - 5555, Hydro/Unknown - 6666, Undivided Interest/Open Space - 7777, Condos - 8888

Metadata:
Feature Data:
[By alphabet](#)
[By subject](#)
[By agency](#)
Image Data
Alphabetical Index
A B C D E
F G H I J
K L M N O
P Q R S T
U V W X Y
Z
Subject Index
[admin](#)
[census](#)
[district](#)
[enviro](#)
[hydro](#)
[natres](#)
[other](#)
[plan](#)

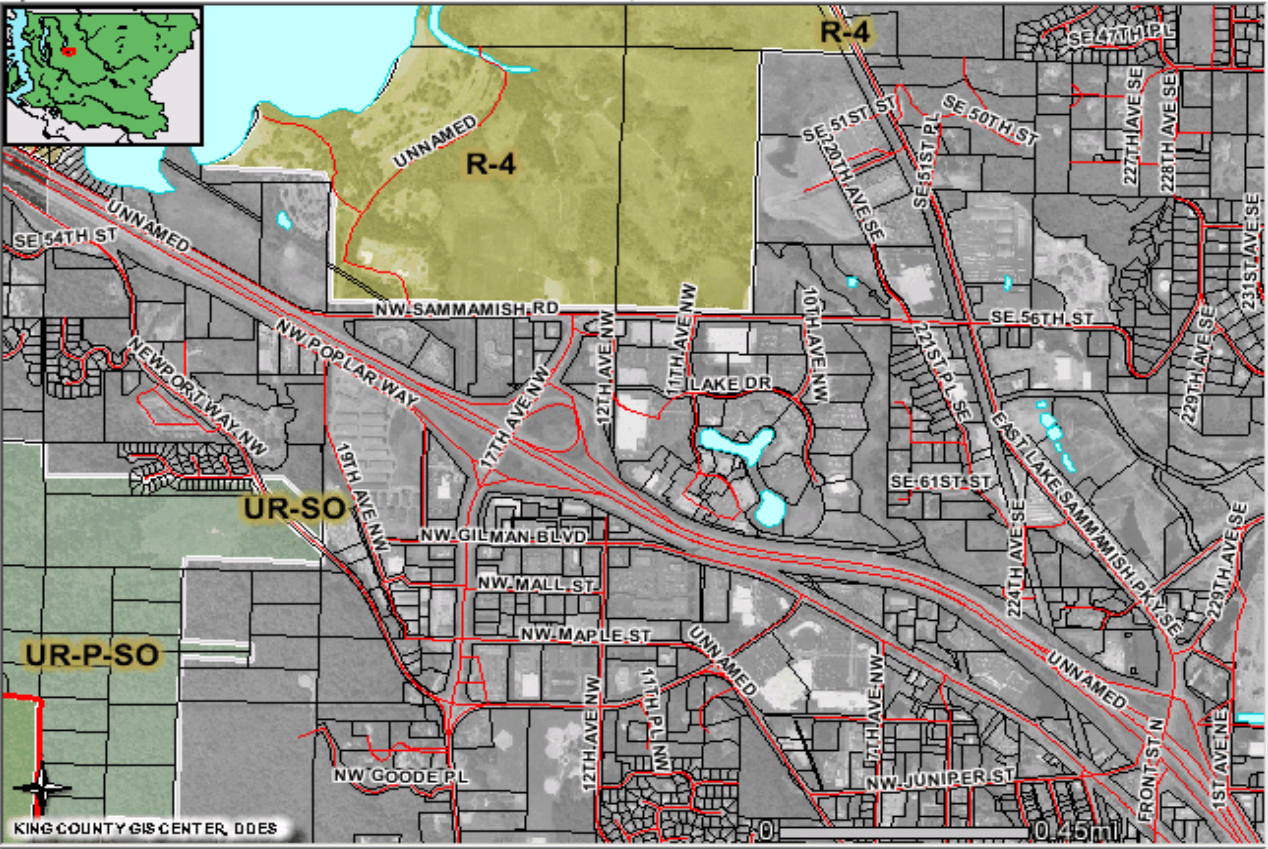


KCGIS Map Portal iMap

(www.metrokc.gov/gis/mapportal)

Map Portal - Microsoft Internet Explorer

King County, Washington **Map Portal**
Department of Information and Administrative Services, GIS Center



Layers

Visible	Active	Layer Name
<input checked="" type="checkbox"/>	<input type="radio"/>	Streets
<input checked="" type="checkbox"/>	<input type="radio"/>	Urban Growth Area Line
<input checked="" type="checkbox"/>	<input type="radio"/>	Lakes and Large Rivers
<input checked="" type="checkbox"/>	<input type="radio"/>	Muckleshoot Tribe
<input checked="" type="checkbox"/>	<input type="radio"/>	Parcel
<input checked="" type="checkbox"/>	<input type="radio"/>	Incorporated Area
<input checked="" type="checkbox"/>	<input type="radio"/>	Zoning Labels
<input type="checkbox"/>	<input type="radio"/>	Comprehensive Plan Land Use
<input checked="" type="checkbox"/>	<input checked="" type="radio"/>	Zoning
<input checked="" type="checkbox"/>	<input type="radio"/>	Aerial Photos

Refresh Map

Zoom In Help Metadata **Property Search** — Change Map Set —

Toggle Overview Map Internet

KCGIS Center Client Services

Function:

- ❑ Specialized/on-call GIS services: training, data sales, consulting, analysis, mapping, applications, staffing

Business Model:

- ❑ 100% cost recovery, including management & overhead
- ❑ Regional service

Organization:

- ❑ 10+ staff: management, administration, trainers, analysts, programmers, technicians, cartographers

Management:

- ❑ Entrepreneurial - flexible, innovative, customer solution focussed: CRM is key
- ❑ Team approach, open business
- ❑ Individual professional development



KCGIS Center Client Services - Examples

Client/Project Examples

- ❑ KC EOC - GIS Integration
- ❑ KC Transportation Planning - Park & Ride Analysis Maps
- ❑ Prosecuting Attorney Demographics Geocoding
- ❑ KC Airport - Data Development
- ❑ City of Tukwila GIS Needs Assessment & Action Plan
- ❑ City of Kirkland Parks Map
- ❑ RTA Autodealers Application
- ❑ SeaTac Airport Noise Abatement Analysis



KCGIS Center - Client Services Unit

Service Offerings:

□ GIS related training



Address http://www.metrokc.gov/gis/services/training_schedule.htm Go Links

Facilities Search: Web Shopping Dictionary Encyclopedia

King County Home News Services Comments Search

King County GIS Center

GIS Center Home Map Portal Client Services Spatial Data Catalog Data Warehouse

GIS Training Client Services

KCGIS Teaching Schedule:

[Click here for Course Descriptions](#)

KCGIS Courses: King County Staff and staff of Puget Sound Area Government Agencies are eligible to take KCGIS Center Courses. Use the [Register](#) link for directions on registering with the KCGIS Center. (KCGIS)

ESRI Courses in Seattle: Enrollment for ESRI courses held in Seattle at the King County GIS Center is open to the public and handled by ESRI. Use the [Click here to enroll](#) link to connect to their site. (ESRI)

All courses are held between 8:30am - 5:00pm

Course dates after June 2002 are displayed in grey and subject to change.

[SCHEDULE](#)
[REGISTRATION](#)
[KNOWLEDGE BASE](#)

GIS Projects & Consulting
[Project Portfolio](#)
[Map Portfolio](#)
[Resources](#)
[Pricing](#)
[Data Sharing](#)

[Data CDs](#)

[Custom Cartography](#)

[Web Mapping](#)

[Contact Us](#)

Site Features
[Events](#)
[External GIS Links](#)
[KC Users Group](#)
[Knowledge Base](#)
[Regional Vision](#)
[Training](#)

Site Navigation
[Site Index](#)
[Search KCGIS](#)
[Other KCGIS Sites](#)
[DDES](#)
[DNRP](#)

Course	Dates	KCGIS	ESRI
Introduction to ArcGIS (1) (KCGIS) Location: King Street Center Students Enrolled: 5	February 12 - 13, 2002	Register	

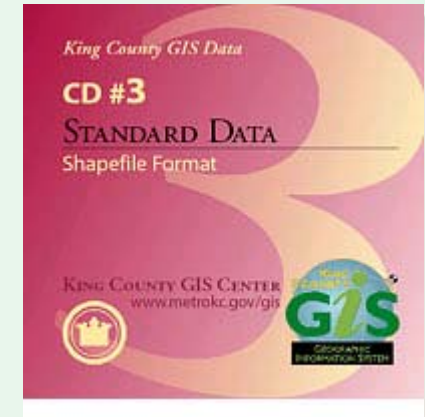
KCGIS Center - Client Services Unit

Service Offerings:

□ GIS data sales



The screenshot shows a web browser window with the address http://www.metrokc.gov/gis/services/sales_cd1.htm. The page is titled "King County GIS Center" and "King County GIS Data Sales". It features a sidebar with navigation links: GIS Center Home, Map Portal, Client Services, Spatial Data Catalog, Data Warehouse, GIS Projects & Consulting (with sub-links for Project Portfolio, Map Portfolio, Resources, Pricing, and Data Sharing), Data CDs, Custom Cartography, Web Mapping, Contact Us, and Site Features (with sub-links for Events, External GIS Links, KC Users Group, Knowledge Base, Regional Vision, and Training). The main content area is titled "King County GIS Data Sales" and lists "CD #1 Standard Data Arc/Info Coverages". It states that the data is updated and published in June and December of each year. For December 2001, it is in stock and priced at \$75.00. There are links to view the table of contents, see the disclaimer, and more information options. A "General Description" section follows, stating that CD #1 contains a set of Arc 7.1.2 coverages arranged by theme, with each top-level directory being a workspace. It also notes that the contents are documented in HTML pages accessible via a web browser, and that the HTML pages are known to work with Netscape 4 and Internet Explorer 4.



KCGIS Center - DNRP GIS Unit

Function:

- Dedicated GIS staff and services for four Department of Natural Resources & Parks (DNRP) Divisions

Business Model:

- Negotiated fixed-level of support with each division

Organization:

- 10+ staff: GIS analysts, plus management & administration

Management:

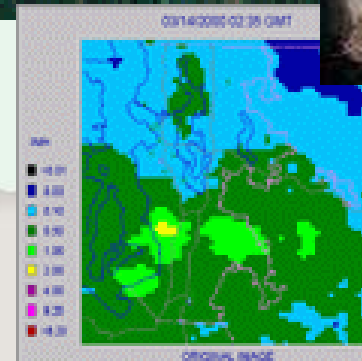
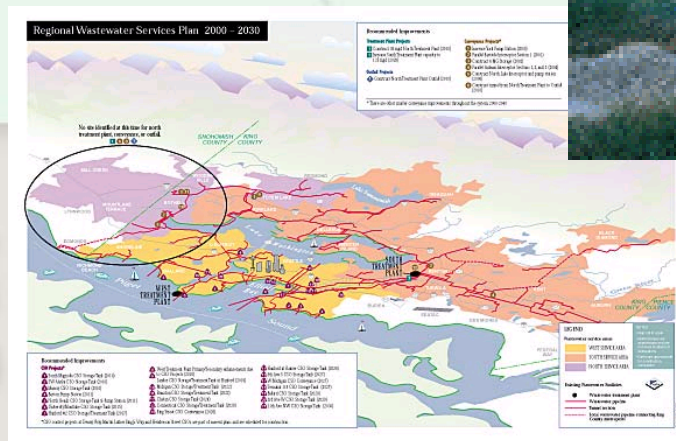
- DNRP GIS Unit Manager ensures open business & 'best practices' in matrix management environment
- DNRP GIS Unit Manager performs CRM
- Individual professional development



KCGIS Center - DNRP GIS Unit

Wastewater Treatment Division:

- ❑ Conveyance system improvements
- ❑ Brightwater siting & conveyance
- ❑ Regional infiltration & inflow control program
- ❑ Facilities inspection
- ❑ GIS data steward

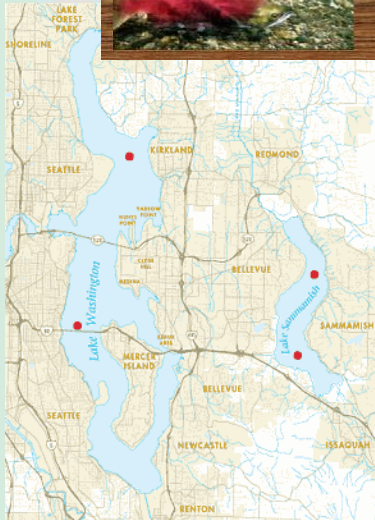


KCGIS Center - DNRP GIS Unit



Water & Land Resources Division:

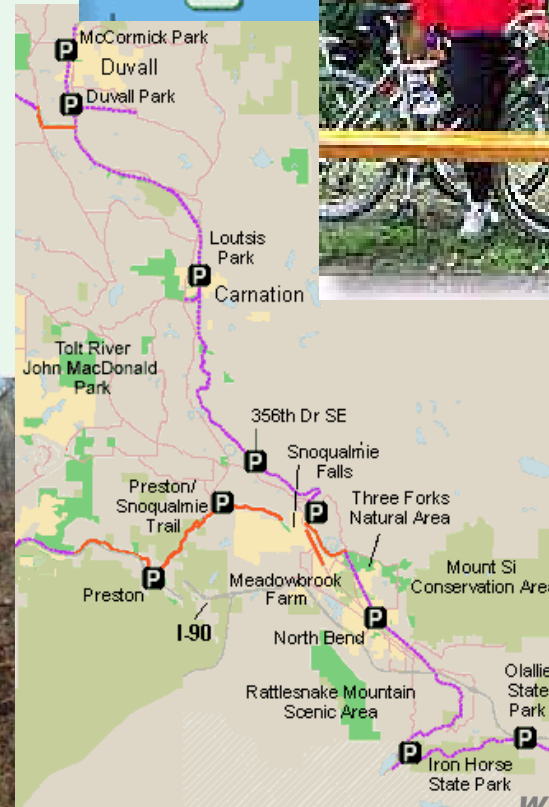
- ❑ Strategic initiatives - ESA
- ❑ Science, monitoring & data management
- ❑ Land & water stewardship
- ❑ Rural & resource programs
- ❑ Open space acquisition
- ❑ GIS data steward



KCGIS Center - DNRP GIS Unit

Parks Division:

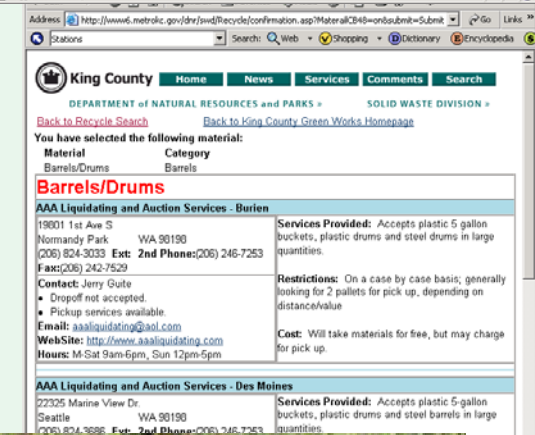
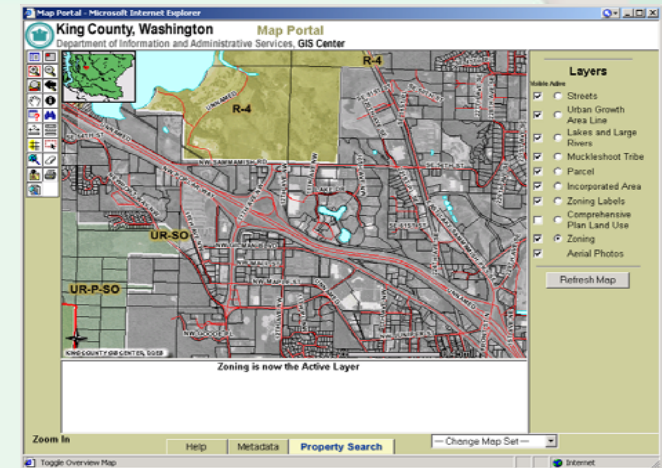
- ❑ Facilities & site maintenance
- ❑ Recreational & event services
- ❑ Program development
- ❑ Land management
- ❑ GIS data steward



KCGIS Center - DNRP GIS Unit

Solid Waste Division:

- Plan future facility locations
- Preliminary engineering design
- Operations transportation analysis
- Emergency equipment & facility management
- Waste reduction/recycling site customer analysis
- Marketing analysis



www.metrokc.gov/gis

KCGIS Center Management

Why the KCGIS Center Approach?

- ❑ Functional coordination across business lines ensures consistent and effective operations
- ❑ Open business supports ongoing focus to define and apply 'best practices'
- ❑ Promotes redundant knowledge and professional development
- ❑ Supports cost-effective service delivery



King County GIS Knowledge Sharing

King County GIS Competency Management Goals:

- ❑ Improve reliability & effectiveness of GIS Center service delivery
- ❑ Support viable GIS in County departments
- ❑ Aid GIS development in regional jurisdictions
- ❑ Enhance professional development of KCGIS staff

Strategy:

- ❑ Provide access to knowledge so staff can develop their skills & abilities

Components:

- ❑ Open business
- ❑ KCGIS web site Knowledge Base



King County GIS Open Business

Components:

- ❑ Web Site mirrors KCGIS Business Model
- ❑ GIS Center Team Folders
- ❑ GIS Oversight Committee
- ❑ GIS Technical Committee
- ❑ KCGIS Users Group
- ❑ Annual KCGIS O&M Plan
- ❑ KCGIS Cartographic Standards & Best Practices



King County GIS Open Business

Web Site mirrors KCGIS Business Model

- Enterprise Operations
 - Data Warehouse
 - Data Catalog
 - Map Portal
- Client Services



The screenshot shows the King County GIS Center website. At the top, there is a navigation bar with links: Home, News, Services, Comments, and Search. Below this is the "King County GIS Center" header. The main content area is divided into two columns. The left column contains a sidebar with links: Home / About, Map Portal, Client Services, Data Catalog, Data Warehouse, New Topics, Welcome, Mission, Staff Directory, Regional Vision, Events, KCGIS Users Group, Special Features, KCGIS Data CDs, Featured Map, Training, GIS InfoSource, Site Navigation, Site Index, Search KCGIS, and Other KCGIS Sites. The right column features a large "Welcome" heading followed by a paragraph: "The King County GIS Center manages the King County Geographic Information System (KCGIS) — King County's cooperative, multi-department GIS. The King County GIS Center provides efficient, high-quality GIS leadership, coordination, infrastructure, and services to meet the business needs of you, our customers and clients within King County and the communities we serve." Below this is another paragraph: "There are five main areas in the King County GIS Center Web site. Each area is always accessible by using the corresponding buttons in the left-hand page border. The areas are each briefly described below." and a numbered list: 1. GIS Center Home, 2. Map Portal, 3. Client Services, 4. Spatial Data Catalog, 5. Spatial Data Warehouse.



King County GIS Open Business

Frequent Timely News & Information about KCGIS

New topics • GIS Center home

CLIENT SERVICES

- ▶ [New Web-based Historical Map](#)
- [Fairgrounds Map Goes to Press](#)

APPLICATIONS

- ▶ [Updates to AVLlib and ParcelTools](#)

TRAINING

- [Course Reminders](#)

▶ Indicates new or updated item

Search KCGIS

[Submit](#) [Clear](#)


[Help](#)

CLIENT SERVICES

New Web-based Historical Map
July 22, 2002

Did you know that in 1852 Pacific Ocean waves lapped the western shore of King County? Did you even know that King County existed in 1852? You can learn about the history of King County thanks to a new Web site that celebrates King County's Sesquicentennial, the 150-year anniversary of the formation of King County.

Under the category [Milestones](#) on the [Sesquicentennial site](#), is a map created by the King County GIS Center [Client Services Group](#). The map depicts King County's original boundary as interpreted from a verbal



King County's Original Boundary - 1852

- ❑ Completed projects
- ❑ New or revised applications
- ❑ Upcoming meetings
- ❑ Training opportunities
- ❑ Regional events
- ❑ Published or revised standards and practices



King County GIS Open Business

KCGIS Data Warehouse

- ❑ System & Data Architecture
- ❑ Framework Layers
- ❑ Spatial Data Standards
- ❑ Back-end Applications
- ❑ Front-end Applications



[GIS Center Home](#)
[Map Portal](#)
[Client Services](#)
[Spatial Data Catalog](#)
[Data Warehouse](#)

Data
[Access](#)
[Development](#)
[Acquisition/Sharing](#)
[Distribution](#)

Tools/Applications
[Front-End Apps](#)
[Back-End Apps](#)

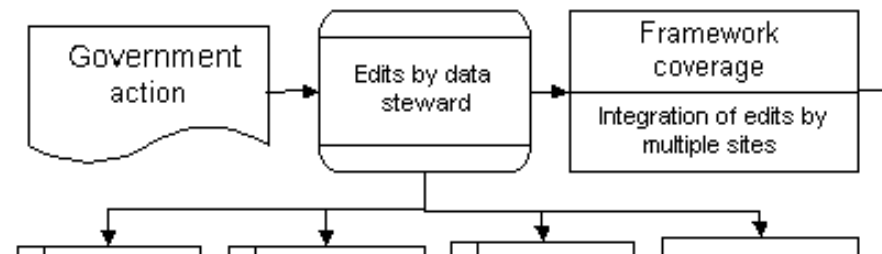
Overview
[System Architecture](#)
[Data Architecture](#)
[Framework Layers](#)
[Metadata](#)
[Spatial Data Standards](#)

Data warehouse overview

Data Architecture

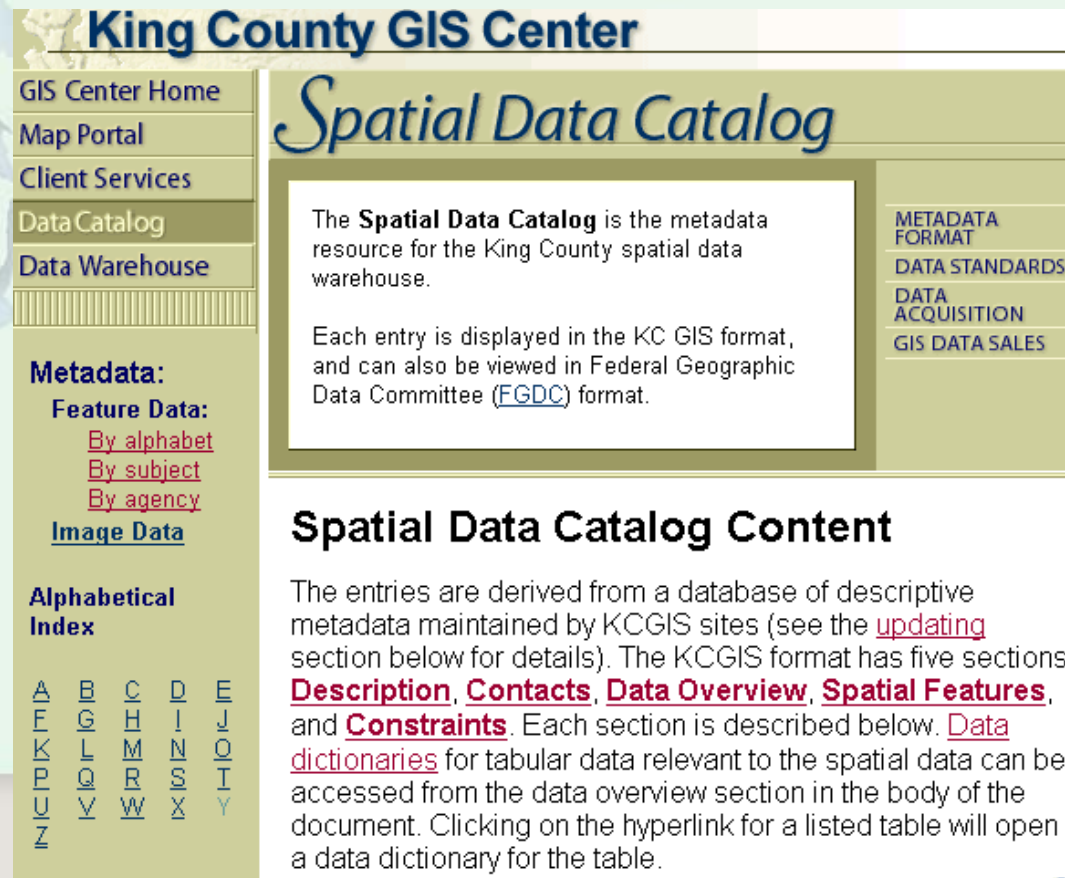
The purpose of a data warehouse is to deliver information to end users. (1997. Immon, W.H., Welch, J.D., and Glassey, K.L. Managing the Data Warehouse, p.130)

In King County data and metadata is received from a distributed network of GIS sites and checked into a common spatial data warehouse organized by subject areas. Each site has data stewardship responsibilities to assure that information is comprehensive and trusted across functional units as an enterprise information base.



King County GIS Open Business

KCGIS Spatial Data Catalog



King County GIS Center

GIS Center Home
Map Portal
Client Services
Data Catalog
Data Warehouse

Spatial Data Catalog

The **Spatial Data Catalog** is the metadata resource for the King County spatial data warehouse.

Each entry is displayed in the KC GIS format, and can also be viewed in Federal Geographic Data Committee ([FGDC](#)) format.

METADATA FORMAT
DATA STANDARDS
DATA ACQUISITION
GIS DATA SALES

Metadata:
Feature Data:
[By alphabet](#)
[By subject](#)
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Image Data

Alphabetical Index

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Z

Spatial Data Catalog Content

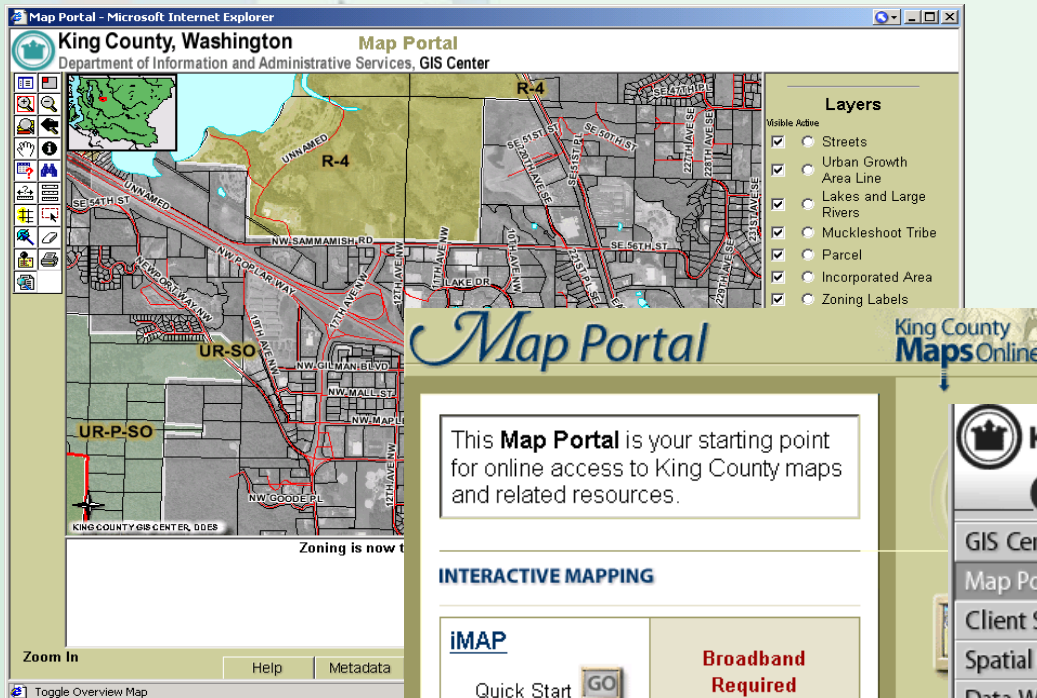
The entries are derived from a database of descriptive metadata maintained by KCGIS sites (see the [updating](#) section below for details). The KCGIS format has five sections: **Description**, **Contacts**, **Data Overview**, **Spatial Features**, and **Constraints**. Each section is described below. [Data dictionaries](#) for tabular data relevant to the spatial data can be accessed from the data overview section in the body of the document. Clicking on the hyperlink for a listed table will open a data dictionary for the table.



- ❑ Full KCGIS Metadata
- ❑ Spatial Data Catalog Maintenance Responsibilities

King County GIS Open Business

Public Access to KCGIS Web Mapping Applications



- King County iMap
- KC Parcel Viewer
- Virtual Map Counter

This **Map Portal** is your starting point for online access to King County maps and related resources.

INTERACTIVE MAPPING

iMAP

Quick Start



**Broadband
Required**

Interactively build, view, and print map displays from online KCGIS data; includes an integrated property search tool.

Parcel Viewer

NEW



**Lightweight
For All Users**

Looking for property information?

Here is our new lightweight viewer which is suitable for any connection speed. **Parcel Viewer** has been optimized specifically for fast property searches using an address, a parcel number, or by navigating on a simple map.

Try it! Let us know if you like it:

**King County**

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iMAP
-best with broadband

Parcel Viewer
-lightweight

Virtual Map Counter
How to Use the VMC
-plus: *Featured Map*
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Virtual Map Counter

Planning

Derived, potentially cross-jurisdictional, divisions of land based on regulatory code.

Includes growth, zoning, and land use.

See also: [Boundaries](#) for jurisdiction and administrative maps.

Census 2000, Population and jurisdiction changes by drainage basin.

Print Size: 17 X 11 inches each

This suite of four maps uses Census 2000 data to illustrate demographic changes organized and mapped by drainage basins (King County Water and Land Resources Division standard drainage basins). Produced by the Water and Land Resources Division (WLRD) GIS and



YEAR 2000 KING COUNTY HUMAN POPULATION STATISTICS
MAP 1 OF 4: 1990 TO 2000 POPULATION DENSITY CHANGES BY BASIN

1990 To 2000
Population Density Change
By Basin
2.04Mb PDF

YEAR 2000 KING COUNTY HUMAN POPULATION STATISTICS
MAP 1 OF 4: 1990 TO 2000 POPULATION DENSITY CHANGES BY BASIN

King County GIS Open Business

GIS Center Staff Team Folders

- ❑ Discussion
- ❑ Documents
- ❑ Calendar
- ❑ Tasks
- ❑ Contacts

Outlook Today
Inbox (1)
Calendar
Contacts
Tasks
Notes
Deleted Items...

Tasks - Team Folder (Filter Applied)

Home | Discussion | Documents | Team Calendar | **Team Tasks** | Team Contacts


Team Tasks Help

New Team Task Set Categories Customize View

Show Me	Subject	Status	Start Date	Due Date
Tasks grouped by owner	TaskOwner : Babinski, Greg (3 items)			
My tasks	<input checked="" type="checkbox"/> City of Issaquah	In Progress	Mon 12/10/2001	Thu 1/31/2002
Tasks grouped by area	<input checked="" type="checkbox"/> City of Snoqualmie - KCGIS Membership	Not Started	Thu 11/29/2001	Thu 1/31/2002
All tasks	<input checked="" type="checkbox"/> 2002 WAURISA Conf	In Progress	None	Thu 2/7/2002
Custom view	TaskOwner : Higgins, Dennis (4 items, 3 unread)			
Find	<input checked="" type="checkbox"/> Federal Way Data Request	In Progress	Fri 1/11/2002	Fri 1/25/2002
Find Now	<input checked="" type="checkbox"/> Solid Waste Division Cedar Hills Landfill HAZUS appl...	Not Started	Fri 12/21/2001	Thu 1/31/2002
Advanced Find...	<input checked="" type="checkbox"/> DCHS	In Progress	Fri 12/7/2001	Thu 1/31/2002
Send new message to team	<input checked="" type="checkbox"/> ORPP	In Progress	Fri 12/7/2001	Thu 1/31/2002
	TaskOwner : Jankanish, Patrick (8 items, 8 unread)			
	<input checked="" type="checkbox"/> Road Services mapping	Not Start...	None	None
	<input checked="" type="checkbox"/> Lake Wilderness Park Map	In Progress	None	None
	<input checked="" type="checkbox"/> Web editing, maintenance, and improvement	In Progress	None	None
	<input checked="" type="checkbox"/> MAPublisher user group and instructions	In Progress	None	None
	<input checked="" type="checkbox"/> GIS Center identity	Not Start...	None	None
	<input checked="" type="checkbox"/> King County Fairgrounds Map	In Progress	None	None
	<input checked="" type="checkbox"/> EOC Phase II	Not Start...	None	Mon 1/7/2002
	<input checked="" type="checkbox"/> Map of New Council Districts for PR Office	In Progress	Wed 3/13/2002	Fri 3/15/2002
	TaskOwner : Jansen, Chris (7 items, 7 unread)			
	<input checked="" type="checkbox"/> KC Roads CIP Map	In Progress	Mon 4/1/2002	Tue 4/30/2002
	<input checked="" type="checkbox"/> Juvenile Justice Geocode	In Progress	Tue 3/26/2002	Tue 4/30/2002
	<input checked="" type="checkbox"/> KC Housing Geocode	In Progress	Mon 4/1/2002	Tue 4/30/2002
	<input checked="" type="checkbox"/> EOC Lahar Analysis	In Progress	Tue 1/15/2002	Tue 4/30/2002




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Site Features



CRIS/GIS Project

"From CRIS to Mobility With The Help of GIS"

Jeffery R. Gregg
King County Washington Dept. of Transportation - Road Services Division

Slide 1 of 16

KCGIS Users Group Presentations

King County GIS Open Business

Benefits:

- ❑ KCGIS Business is open to peer review
- ❑ Internal best practices are promoted
- ❑ County GIS professionals and users become more knowledgeable and successful
- ❑ Published standards are available for review by other agencies



King County GIS Knowledge Base

KCGIS Components:

- ☐ GIS Basics
- ☐ KCGIS Application Documentation
- ☐ ArcView & ArcGIS
- ☐ Remote Sensing/Aerial Imagery
- ☐ Cartography
- ☐ Advanced Topics
- ☐ Miscellaneous



Other Components:


- ☐ KCGIS Topics
- ☐ GIS InfoSource
- ☐ Map & Data Links
- ☐ GIS & Cartographic Organizations
- ☐ General GIS Information
- ☐ Commercial GIS Sites



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Organization:



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Knowledge Base – KCGIS Users

This **Users' Knowledge Base** contains documentation and other information resources that are specific to the King County Enterprise GIS, and a small number of related external links.

Getting the information you want:
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Browse:
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by [Type](#) of information
by [Alphabetical](#) order
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by [Date](#) of submission
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[Share Your Knowledge](#)
(Win A Prize!)

See Also:
[InfoSource](#)
&
[MapLinks](#)

King County GIS Knowledge Base

The Basics:

- ☐ Standards
- ☐ KCGIS Cartographic Standards
- ☐ KCGIS Best Practices
- ☐ KCGIS 2002 O&M Plan
- ☐ About Data
- ☐ Putting King County Data to Work (PDF)
- ☐ What are Plibrary and Wildfire?
- ☐ Why are there two Plibrarys?
- ☐ What is metadata?

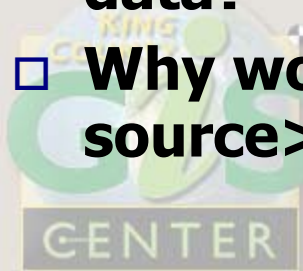


King County GIS Knowledge Base

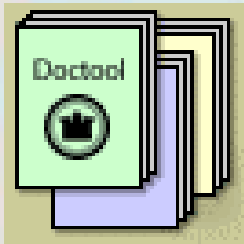
The Basics (continued):



- ☐ Applications
- ☐ How To Install ESRI Arc8 Desktop Software
- ☐ Getting Connected
- ☐ Recommended Drive Mappings (GIS Center) / How To Map Drives
- ☐ How to establish an Oracle client connection
- ☐ How to change an Oracle password
- ☐ Map Projections
- ☐ What is a GIS data projection?
- ☐ What is the King County standard projection for GIS data?
- ☐ Why won't the data I just downloaded from <some data source> plot with the other King County GIS data?




King County GIS Knowledge Base



KCGIS Application Documentation:



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Knowledge Base

How-to: ArcView 3.x Install and Use AvLib

KCGIS Center's custom ArcView extension

Getting started with the King County AvLib extension

What it can do:

- Provide ArcView users with an easy to use interface to the data residing in the Public Library (a.k.a. "plibrary").
- Allow users to browse data by subject and/or feature type
- Provide a more natural language for the user to interact with the data, with little use of jargon, file navigation, and assignment of properties
- Provide tools for easy access to aerial photography (Image catalogs)
- Provide tools for storing and retrieving View documents. Views can be stored on the server, for access by anyone, or stored locally.

This user guide is divided into the following sections:

- [Before you begin](#)
- [Loading the extension](#)
- [Using the extension](#)
- [Main library interface](#)
- [Saving and Loading Views](#)
- [KC Images](#)

King County GIS Knowledge Base

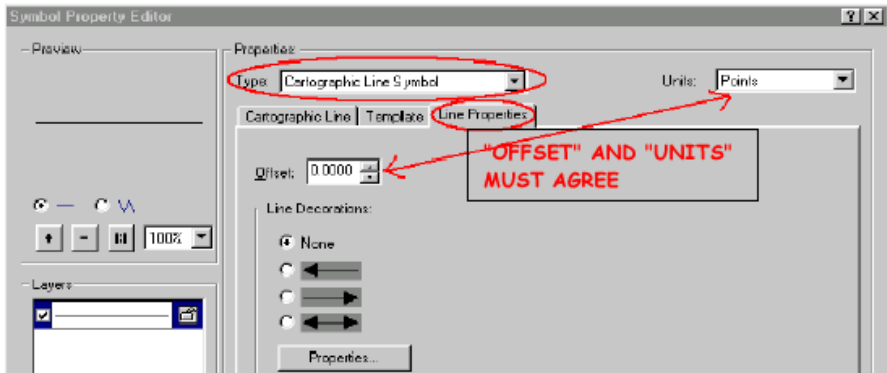
Address http://www.metrokc.gov/gis/kb/Documents/Arcmap_Carto.pdf

CARTOGRAPHIC TIPS FOR ARCMAP
(or It was a snap in ArcView,
but now I have ArcMAP.....HELP!)

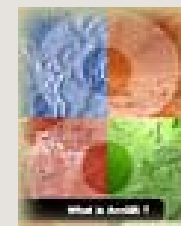
1) **OFFSETTING LINE DATA**

Open the "Layer Properties" dialogue box for the dataset and click on the "Symbology" tab. Whether you are classifying the your data by an attribute or just using a single symbol, the procedure for offsetting the line is the same. Click on the symbol of the line you want to offset to bring up the "Symbol Selector" dialogue box. Click the "Properties" button.

Change the line type to "Cartographic Line Symbol". Once you do this, the bottom portion of the dialogue box changes to display three tabs. Click the "Line Properties" tab, and viola, there is the offset feature.



ArcView & ArcGIS




King County GIS Knowledge Base



Remote Sensing & Aerial Imagery:



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☒ Knowledge Base heading

User Notification:

New Data and/or Data Locations

MrSID Image Mosaics:

—New Locations for Existing Mosaics

—New Mosaics

[Mike Leathers](#), GIS Center
April 22, 2002

Introduction

MrSID image mosaics provide ArcView users an alternative to image catalogs or individual image tiles. The mosaics are the same resolution as the individual image tiles from which they are made, but image definition is slightly degraded due to the compression algorithms used to create the mosaics. Nevertheless, the lower image quality is not relevant in most viewing or map-making situations and the use of MrSID images eliminates the need to load many individual images and can often dramatically decrease redraw time.

New Locations for Existing Mosaics

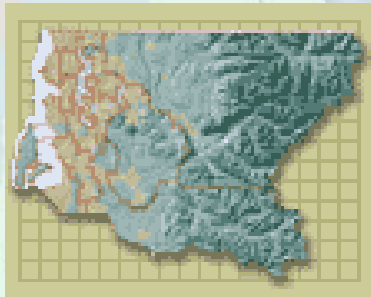
☐


All MrSID Imagery mosaics accessible to King County GIS users have been moved to a central location on plibrary2 at:
[\\wildfire\plibrary2\images\sid_mosaics](#)

Users should start accessing the mosaics from the new directory at this time. After May 15, 2002 the duplicate versions in the locations listed below will be removed. **Important:** if you have a maintained application that points to one of these locations for a MrSID mosaic, please update your application by the date above.

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Cartography:



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Knowledge Base

KCGIS Cartographic Standards

The introduction below has been taken from the full [Cartographic Standards document \(PDF\)](#).

- ▶ **Standards Matrix PDF**
[Click here](#) to skip the Introduction and go right to the standards and recommendations.
- ▶ **Feedback?**
If you have comments, questions, or ideas about the standard, or would like to make suggestions please e-mail the [GIS Cartographic Workgroup](#).

Introduction

The GIS Technical Committee, as part of the King County GIS consolidation initiative, established the Cartographic Standards Workgroup. It is made up of cartographers and GIS analysts from throughout the County. The mission of the workgroup is to propose requirements, guidelines and best practices for King County GIS maps that will assist staff using GIS software to produce high-quality, consistent map products for the County. What follows is a set of requirements and guidelines that evolved through lengthy discussions over the course of many meetings and continues to be improved upon through input from users throughout the County.

The current members of the Cartographic Standards Workgroup are:

- Colette Flanagan, DOT (Transit)
- Michael Berman, Chair, DOT (Transit)
- Mary Barrett, DNRP (WTD)
- Fred Bentler, DNRP (WLRD)

King County GIS Knowledge Base

Advanced Topics:

Knowledge Base

Tip:

SQL: NSELECT

Okay, so SQL doesn't have an NSELECT statement. But you can use the MINUS keyword and a self-join to fake it. Note that you have to have the same columns listed in the second SELECT subquery as in the first.

```
SQL> SELECT namefile, library  
2 FROM libraryctl;
```

NAMEFILE	LIBRARY
AIRINDEX	other
E911_ESN	other
OWNER	mtbaker

ST_ADDRESS	street
SHORELINEMMP	plan

311 rows selected.



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Knowledge Base

Tip: Arc 7.2.x
Creating 2 point arcs out of all arcs in a coverage or in other words turning every vertex into a node.

This is a 2 step process using the **additem** command and the **arccogo** command.

Explanation:

The arc cogo command will automatically turn every arc into a 2 point arc as long as it is not identified as a curve.

Usage: ARCCOGO <in_arc_cover> <out_cogo_arc_cover>
<curve_item>

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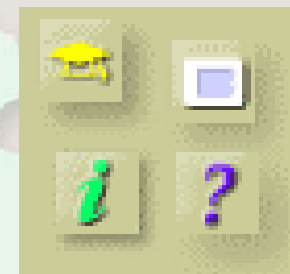
FAQ:
KCGIS Center Web Development

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GIS in the King County Emergency Operations Center:

- [Introduction](#)
- [Pre-Event Protocols - Our GIS Toolbox](#)
- [Event Protocols - GIS Volunteers](#)
- [Post-Event Protocols - Lessons Learned](#)

On February 28, 2001, the Puget Sound Region experienced a 6.8 earthquake. In response to lessons learned from the Nisqually Quake, we have put together a brief review of the GIS tools and staff needed to develop map products before, during after a major event.

Working as a team, the EOC, KCGIS Center staff and GIS Volunteers from various King County Departments will help the Puget Sound citizens see the scope of both natural or man-made disasters as they occur. Together we will put GIS to work in King County for the benefit of our entire region.

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King County Zoning Codes

General, non-comprehensive information

[Development Conditions](#)
[Base Codes](#)
[Where to Go for More Information](#)

Disclaimer: The information contained on this page is being made available as a convenience to our users, and is NOT to be considered an official citation to the King County Code. While we make every effort at accuracy, errors can and do occur, and information is subject to change without notice. Please check official publications to ensure accuracy of citations.

Development Conditions:

Base zoning codes may be modified by one of more of the following development codes:

P:	Parcel-specific condition
SO:	Special district Overlay
DPA:	Demonstration Project Area

Miscellaneous:

- ☐ External
- ☐ Internal

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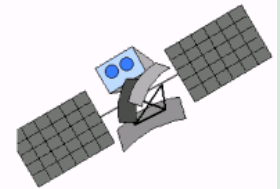
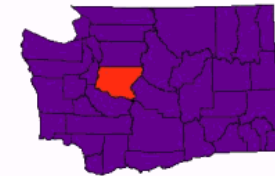


**Inflow & Infiltration: How King County G.I.S. is Helping
Make Our Sewer System More Efficient**



KING COUNTY Multispectral Image Acquisition

Over 2200 square miles of
multispectral imagery collected
during 2000



KCGIS Topics:

www.metrokc.gov/gis

King County GIS Knowledge Base

External Sources:

- ❑ Maps & Data
- ❑ GIS Organizations
- ❑ Regional GIS Links
- ❑ Commercial GIS Sites



Address <http://www.krollmap.com/>



Snohomish County 
WASHINGTON

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Geographic Information System (GIS)

Snohomish County has a centralized [Geographic Information System \(GIS\)](#) which provides administrative and technical support to internal departments.

What is available to the public?

Order GIS [products](#)

www.metrokc.gov/gis

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Knowledge Base



Share Your Knowledge!

If you're a King County GIS User, you can contribute a how-to tip, an article, a presentation, or any other form of information to help out your fellow KCGIS analysts and map makers. **A prize will be awarded each quarter for the best contribution.**

[Click Here](#) and then type or cut-and-paste your text into the pop-up e-mail window

King County GIS Knowledge Base

Benefits:

- ❑ Promotes professional development for users
- ❑ Enhances professional standing for contributors
- ❑ Promotes meaningful best practices
- ❑ Develops more effective end-users
- ❑ Facilitates adoption of regional standards
- ❑ Makes use of material already developed
- ❑ Organizes & preserves institutional knowledge
- ❑ Facilitates retrieval of key knowledge



Conclusion & Questions

- ❑ GIS competency is an important success factor
- ❑ Access to key knowledge is a foundation to develop & maintain competency
- ❑ The web is an effective tool to share & improve GIS knowledge
- ❑ Questions?

For More information see: metrokc.gov/gis/kb



Greg Babinski
(greg.babinski@metrokc.gov)



Reference

Gaudet, C., Annulis, H., and Carr, J., 2001. Workforce Development Models for Geospatial Technology, Hattiesburg, MS: The University of Southern Mississippi.
(<http://www.geowdc.usm.edu/research/research.htm>)

www.metrokc.gov/gis